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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/552,589	04/19/2000	Masato Ochiai	35.C14438	4086

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EXAMINER

GYORFI, THOMAS A

ART UNIT	PAPER NUMBER
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2135

DATE MAILED: 07/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/552,589

Applicant(s)

OCHIAI ET AL.

Examiner

Tom Gyorf

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 May 2005.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,5,10-28,33,37-57 and 61-70 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1,3,5,10-28,33,37-57 and 61-70 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5/24/05.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1, 3, 5, 10-28, 33, 37-57, and 61-70 remain for examination. The correspondence filed 5/24/05 added, amended, and canceled no claims.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/24/05 has been entered.

Response to Arguments

3. Applicant argues, "The status indicators allow a user to modify the search in order to facilitate the job, but do not indicate which elements of the search were successfully located. Therefore, Salgado et al. fails to teach or suggest the second request means or the output means of claim 1." Examiner disagrees with this contention, as the user (being the recognition means) is inherently capable of identifying at least one device and determining whether to begin a second search. In addition, it must be noted that as claim 1 was rejected in view of Salgado and Lizee, and whereas Lizee discloses the second request means, Applicant's argument amounts to an attempt to show nonobviousness by attacking references individually where the rejections are

based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

4. Applicant argues, "*Additionally, Applicants believe that Lizee et al. is unrelated to the subject matter of Claim 1, because it is directed towards an Automatically Relaxable Query (ARQ) system and not a database device search system.*" Examiner disagrees with this contention. Lizee is directed toward the general problem of querying a database, and is universally practicable on any system that requires the ability to query a database (see also col. 1, lines 15-35), which would include both the instant application and the cited prior art.

5. The remainder of Applicant's arguments, see the RCE filed 5/24/05, with respect to the rejection(s) of claim(s) 1, 3, 5, 10-28, 33, 37-57, and 61-70 under Salgado and Lizee (along with other references as previously indicated) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Salgado, Lizee, and Gauch.

Claim Rejections - 35 USC § 103

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 1, 3, 5, 10, 12, 15, 17-19, 21, 24, 28, 33, 44, 46, 50, 55-57, 61, 63-65, and 67-70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Salgado et al (U.S. Patent 5,872,869) in view of Lizee et al. (U.S. Patent 5,671,404), and further in view of Gauch et al. ("Search Improvement via Automatic Query Reformulation").

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Referring to Claims 1, 10, 19, 28, 44, 55, 56:

Salgado discloses a device search system comprising a server unit and a client unit (col. 13, lines 30-45), wherein said client unit comprises: first request means for requesting said server unit to execute a first search in accordance with a number of attributes in order to search for a desired device on a network (col. 19, lines 5-10); recognition means for recognizing whether result information obtained from the first search shows a presence or an absence of at least one device obtaining means for obtaining at least one attribute for use in a second search from the number of attributes for the first search (the user, col. 20, lines 20-55); second request means for requesting said server unit to execute a second search in accordance with a part of the number of attributes used for the first search in order to search for a desired device on the network (col. 19, lines 12-20, 35-40), recognition means for recognizing whether result information obtained from the first search executed by said server unit shows a presence or an absence of at least one device (the user, col. 20, lines 20-55) and output means for outputting a search result from the first search when the recognition means recognizes that the result information shows the presence of at least one device (col. 19, lines 38-43), and for outputting a search result from the second search, which shows, for each device completely meeting attributes used for the second search, that the device meets the attributes used for the second search (col. 22, lines 49-62), and shows, for each device incompletely meeting the attributes used for the second search, at least one of the attributes that the device meets and a remainder of the attributes distinguishably from each other (col. 22, lines 55-65), when the recognition means

recognizes that the search result information shows the absence of at least one device (col. 20, lines 20-55; col. 22, lines 60-67).

Salgado does not explicitly disclose "second request means for requesting said server unit to execute a second search in accordance with a part of the number of attributes used for the first search in order to search for a desired device on the network, in response to a recognition by the recognition means that the result information shows the absence of at least one device".

Lizee discloses a recognition means for recognizing whether result information obtained from the first search executed by said server unit shows a presence or an absence of at least one device (col. 6, lines 1-10); second request means for requesting said server unit to execute a second search [in accordance with a part of the number of attributes used for the first search in order to search for a desired device on the network], in response to a recognition by the recognition means that the result information shows the absence of at least one device (col. 6, lines 3-15; Fig. 1A).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify Salgado to implement Lizee's automatically relaxable query. One of ordinary skill in the art would have been motivated to do this because it would allow a query to disregard conditions that returns an empty result set which would provide faster processing times (col. 2, lines 50-55).

As Applicant has previously argued, neither Lizee nor Salgado disclose that the second search executes in accordance with a part of the number of attributes used for the first search. However, Gauch teaches a method of querying databases wherein

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additional searches can be made using at least one attribute obtained from the previous search (page 263, "Flow of Control" and "Expanding a concept"; and Figure 3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to allow the ability to implement the search broadening/narrowing ability of Gauch into the system of Salgado in view of Lizee. The motivation for doing so would be to improve search results (Gauch, Abstract).

Referring to Claims 15, 24, 33, 50, 57:

Salgado discloses an apparatus for searching a database in accordance with a query from a client unit, said apparatus comprising: execution means for executing a search in accordance with a search request from the client unit (col. 18, line 65-col. 19, line 25); database control means for controlling a database in which information for identifying a device on a network and information for various attributes of the device are registered, and for controlling execution of the search for the device in accordance with the search request from the client unit (col. 19, lines 1-30); reception means for receiving from the client unit a first search for a device which satisfies a number of attributes on the network (col. 19, lines 10-15); obtaining means for obtaining at least one attribute for use in a second search from the number of attributes for the first search (col. 19, lines 15-25; Fig 10, block 232); search means for executing the second search for a device satisfying the at least one attribute obtained by said obtaining means (col. 19, lines 10-30), and output means for outputting a search result from the first search when said recognition means recognizes that the result information shows the presence

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of at least one device (col. 19, lines 38-43), and for outputting a search result from the second search, which shows, for each device completely meeting attributes used for the second search, that the device meets the attributes used for the second search (col. 22, lines 49-62), and shows for each device incompletely meeting the attributes used for the second search, at least one of the attributes that the device meets and a remainder of the attributes distinguishably from each other (col. 22, lines 55-65), when said recognition means recognizes that the result information shows the absence of at least one device (col. 20, lines 20-55; col. 22, lines 60-67).

Salgado does not explicitly disclose "search means for executing the second search for a device satisfying the at least one attribute obtained by said obtaining means, in response to a recognition by said recognition means that the search result information shows the absence of at least one device", although the argument can be made that the user is itself capable of recognizing that the search results do not contain the desired device, as the results are reported to the user in a conventional fashion (see col. 20, lines 20-55).

Lizee discloses a recognition means for recognizing whether result information obtained from the first search shows a presence or an absence of at least one device; obtaining means for obtaining at least one attribute for use in a second search from the number of attributes for the first search (col. 6, lines 1-10); search means for executing the second search for a device [satisfying the at least one attribute obtained by said obtaining means], in response to a recognition by said recognition means that the

search result information shows the absence of at least one device (col. 6, lines 3-15; Fig. 1A).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify Salgado to implement Lizée's automatically relaxable query. One of ordinary skill in the art would have been motivated to do this because it would allow a query to disregard conditions that returns an empty result set which would provide faster processing times (col. 2, lines 50-55).

As Applicant has previously argued, neither Lizée nor Salgado disclose that the second search satisfies at least one attribute obtained by said obtaining means. However, Gauch teaches a method of querying databases wherein additional searches can be made using at least one attribute obtained from the previous search (page 263, "Flow of Control" and "Expanding a concept"; and Figure 3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to allow the ability to implement the search broadening/narrowing ability of Gauch into the system of Salgado in view of Lizée. The motivation for doing so would be to improve search results (Gauch, Abstract).

Referring to Claims 61, 65, 69 and 70:

Salgado discloses a device search apparatus comprising: a first display unit, adapted to display result information obtained from a device search executed under a first search condition in which a number of attributes are designated (col. 19, lines 1-10) a request unit, adapted to request a device search under the second search condition

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(col. 19, lines 14-30); and a second display unit, adapted to display, for each device completely meeting the second search condition, that the device meets the second search condition (col. 22, lines 49-62), and to display, for each device incompletely meeting the second search condition, at least one attribute in the second search condition that the device meets and other attributes distinguishably from each other (col. 22, lines 55-65).

Salgado does not explicitly disclose an extraction unit, adapted to extract a part of the number of attributes designated in the first search condition for use as a second search condition.

Lizee and Gauch disclose an extraction unit, adapted to extract a part of the number of attributes designated in the first search condition for use as a second search condition (Lizee: col. 6, lines 1-10; Gauch: page 262, "Query Reformation techniques" and "Expanding concepts").

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify Salgado to implement Lizee's automatically relaxable query and Gauch's ability to reform and refine queries. One of ordinary skill in the art would have been motivated to do this because it would allow a query to disregard conditions that returns an empty result set which would provide faster processing times (Lizee, col. 2, lines 50-55), while improving the quality of search results (Gauch, Abstract).

Referring to Claims 3, 12, 17, 21, 46:

Salgado in view of Lizée and Gauch discloses the limitations as discussed in Claims 1, 10, 15, 19, and 44 above. Salgado further discloses the output means selectively outputs the search result from the first search or the search result from the second search (col. 19, lines 10-30).

Referring to Claim 5:

Salgado in view of Lizée and Gauch discloses the limitations as discussed in Claim 1. Salgado further discloses storing symbol information, including graphical icon information, corresponding to an attribute used for the first search, and when the search result from the second search is outputted and when the information showing the presence or an absence of at least one device found in the first search is outputted, a presence or an absence at least one device or each attribute of each device is shown in accordance with a display mode of the graphical icon corresponding to each attribute (col. 19, line 50-col. 20, line 35).

Referring to Claim 18:

Salgado in view of Lizée and Gauch discloses the limitations as discussed in Claim 17. Salgado further discloses control means returns the search result from the first search to the client unit when a device to be outputted as the search result is present, and returns the search result from the second search to the client unit when a device to be outputted as the search result is not present (Fig 10; col. 19, lines 35-45).

Referring to Claim 63 and 67:

Salgado in view of Lizée and Gauch discloses the limitations as discussed in Claims 61 and 65 above. Lizée further discloses a recognition unit, adapted to recognize whether at least one device that meets the first search condition has been found (col. 6, lines 1-10), wherein said extraction unit extracts a part of the number of attributes designated in the first search condition in response to a recognition result by said recognition unit (col. 6, lines 3-10).

Referring to Claims 64 and 68:

Salgado in view of Lizée and Gauch discloses the limitations as discussed in Claims 61 and 65 above. Salgado further discloses devices found in the device search under the first and second search conditions are displayed distinguishably from each other (col. 19, lines 10-25).

8. Claims 11, 13-14, 16, 20, 22-23, 25-27, 37-43, 45, 47-49 and 51-54, 62 and 66 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5872869 issued to Salgado, herein referred to as Salgado in view of US 5671404 issued to Lizée et al, herein referred to as Lizée further in view of US 6348971 issued to Owa et al herein referred to as Owa.

Referring to Claims 11, 16, 20, 25, 45 and 51:

Salgado in view of Lizée and Gauch discloses the limitations as discussed in Claims 10, 15, 19, 24, 44 and 50 above.

Salgado in view of Lizée and Gauch does not explicitly disclose "attributes for device controlled by the database include an indispensable attribute registered whenever a device is registered in the database and attributes other than an indispensable attribute, and said second request means extracts only the indispensable attribute from the number of attributes used for the first search in order to request the second search."

Owa discloses attributes for device controlled by the database include an indispensable attribute registered whenever a device is registered in the database and attributes other than an indispensable attribute (col. 5, lines 5-10, 49-53), and said second request means extracts only the indispensable attribute from the number of attributes used for the first search in order to request the second search (col. 6, lines 6-15).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the teachings of Salgado and Lizée such that an indispensable attribute is part of both a first and second search. One of ordinary skill in the art would have been motivated to do this because it would link the first and subsequent search criteria, and it would enable the user to decide which conditions or attributes are important (col. 5, lines 45-50).

Referring to Claims 62 and 66:

Salgado in view of Lizée and Gauch discloses the limitations as discussed in Claims 61 and 65 above.

Salgado in view of Lizée and Gauch does not explicitly disclose “wherein the number of attributes designated in the first search condition include an indispensable attribute and an optional attribute, and an attribute extracted by said extraction unit for the second search condition are defined as an indispensable attribute.”

Owa discloses wherein the number of attributes designated in the first search condition include an indispensable attribute and an optional attribute (col. 5, lines 5-10, 49-53), and an attribute extracted by said extraction unit for the second search condition are defined as an indispensable attribute (col. 6, lines 6-15).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the teachings of Salgado and Lizée such that an indispensable attribute is part of both a first and second search. One of ordinary skill in the art would have been motivated to do this because it would link the first and subsequent search criteria, and it would enable the user to decide which conditions or attributes are important (col. 5, lines 45-50).

Referring to Claims 13, 22 and 47:

Salgado, Lizée, and Gauch in view of Owa disclose the limitations as discussed in Claims 11, 20 and 45. Salgado further discloses output means outputs device names

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and information that shows attributes satisfied by the devices so that the user may select a desired one of the devices (col. 17, line 65-col. 18, line 10).

Referring to Claims 14, 23 and 48:

Salgado, Lizée, and Gauch in view of Owa disclose the limitations as discussed in Claims 11, 20 and 45. Salgado further discloses storing symbol information, including graphical icon information, corresponding to an attribute used for the first search, and when the search result from the second search is outputted and when the information showing the presence or an absence of at least one device found in the first search is outputted, a presence or an absence at least one device or each attribute of each device is shown in accordance with a display mode of the graphical icon corresponding to each attribute (col. 19, line 50-col. 20, line 35).

Referring to Claims 26 and 52:

Salgado, Lizée, and Gauch in view of Owa disclose the limitations as discussed in Claims 25 and 51 above. Salgado further discloses the output means selectively outputs the search result from the first search or the search result from the second search (col. 19, lines 10-30).

Referring to Claims 27 and 53:

Salgado, Lizée, and Gauch in view of Owa disclose the limitations as discussed in Claims 26 and 52. Salgado further discloses control means returns the search result

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from the first search to the client unit when a device to be outputted as the search result is present, and returns the search result from the second search to the client unit when a device to be outputted as the search result is not present (Fig 10; col. 19, lines 35-45).

Referring to Claims 37-43, 49, 54:

Salgado, Lizée, and Gauch discloses the limitations as discussed in Claims 1, 10, 15, 19, 24, 28, 33, 44, and 50 above.

Salgado, Lizée, and Gauch does not explicitly disclose the second search is executed based on at least one of a color printing attribute, a finishing attribute, and a print layout attribute, and the output means displays on a display unit at least one printer identifier that corresponds to a printer found in the second search.

Owa discloses the second search is executed based on at least one of a color printing attribute, a finishing attribute, and a print layout attribute, and the output means displays on a display unit at least one printer identifier that corresponds to a printer found in the second search (col. 5, lines 1-5; col. 6, lines 10-40).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the teachings of Salgado such that printing attributes are used in the second search. One of ordinary skill in the art would have been motivated to do this because it would allow the user to find a printer with the specified attributes (col. 6, lines 50-65).


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom Gyorfi whose telephone number is (571) 272-3849. The examiner can normally be reached on 8:30am - 5:00pm Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Vu can be reached on (571) 272-3859. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TAG
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